

AMENDMENTS TO THE CLAIMS

Please replace the claims, including all prior versions, with the listing of claims below.

Listing of Claims:

Claim 1. (Currently amended) A Method~~method~~ for producing an integrated circuit (23) with a rewiring device (18, 19), ~~having the following steps~~comprising:

~~provision of~~providing a carrier device (10) with predefined or subsequently patterned cutouts (11);

~~application of~~applying at least one integrated circuit (14) upside down to the carrier device (10) ~~in such a way that the defined cutouts (11) of the carrier device (10) are located above at least one connection device (15) of the integrated circuit (14);~~

~~application of~~applying an insulation device (17) to ~~that a~~ side of the carrier device (10) which is not covered by the integrated circuit (14), omitting the at least one connection device (15) in the cutout (11);

~~application of~~applying the patterned rewiring device (18, 19) to the insulation device (17);

~~application of~~applying a patterned solder resist device (20) to the patterned rewiring device (18, 19);
and

~~patterned application of~~applying, in a patterned manner, solder balls (22) on sections (21) of the rewiring device (18) which are not covered by the patterned solder resist device (20).

Claim 2. (Currently amended) The Method~~method~~ according to ~~Claim~~claim 1, ~~characterized wherein~~

~~in that~~ the carrier device (10) is a film in which ~~the~~ at least one of the cutouts (11) is present in the form of a stamped-out hole.

Claim 3. (Currently amended) The Method~~method~~ according to ~~Claim 1 or 2~~, characterized

~~in that~~claim 1, wherein, before the application of the integrated circuit (14), an adhesive (12) is applied to the carrier device (10).

Claim 4. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims~~, characterized

~~in that~~claim 1, wherein the carrier device (10) is clamped in a clamping-in device (13) ~~such as e.g. a frame~~.

Claim 5. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims~~, characterized

~~in that~~claim 1, wherein a multiplicity of integrated circuits (14) are applied to the carrier device (10) by means of a placement device, ~~such as e.g. a pick-and-place tool~~.

Claim 6. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims~~, characterized

~~in that~~claim 1, wherein a protection device (16) is applied above the carrier device (10) and the at least one integrated circuit (14) applied.

Claim 7. (Currently amended) The Method~~method~~ according to ~~Claim 6~~, characterized

~~in that~~claim 6, wherein the protection device (16) is applied in an injection-molding or another potting or printing process and/or is subsequently partly or completely cured.

Claim 8. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims~~,

characterized

~~in that~~ claim 8, wherein a polymer is applied as the insulation device ~~(17)~~.

Claim 9. (Currently amended) ~~The Method~~ method according to ~~one of the preceding claims,~~
characterized

~~in that~~ claim 8, wherein the insulation device (17) is printed on or produced in a photolithographic process.

Claim 10. (Currently amended) ~~The Method~~ method according to ~~one of the preceding claims,~~
characterized

~~in that~~ claim 8, wherein the patterned rewiring device ~~(18, 19)~~ is applied to the insulation device (17)
by means of the following steps:

~~application of~~ applying a carrier metallization to the insulation device ~~(17)~~;

~~application~~ applying and patterning of a mask on the carrier metallization;

~~application of~~ applying a conductor track metallization in regions of the carrier metallization which
are not covered by the patterned mask;

~~removal of~~ removing the mask; and

patterning of the carrier metallization in accordance with the conductor track metallization structure.

Claim 11. (Currently amended) ~~The Method~~ method according to ~~Claim 10,~~
characterized

~~in that~~ claim 10, wherein the carrier metallization is sputtered on and/or the mask is patterned
photolithographically and/or the conductor track metallization ~~(18)~~ is electrochemically plated
and/or the carrier metallization is patterned ~~in an~~ by etching ~~step~~.

Claim 12. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims,~~
~~characterized~~
~~in that~~claim 1, wherein the solder resist device (20) has a polymer.

Claim 13. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims,~~
~~characterized~~
~~in that~~claim 1, wherein the solder resist device (20) is printed on.

Claim 14. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims,~~
~~characterized~~
~~in that~~claim 1, wherein the solder balls (22) are applied in patterned fashion in a printing process
and are subsequently reliquified, preferably in a reflow furnace.

Claim 15. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims,~~
~~characterized~~
~~in that~~claim 1, wherein a multiplicity of integrated circuits (14) on a carrier device (10), after the
application of the solder balls (22), are separated into individual integrated circuits (23) or groups of
integrated circuits (23).

Claim 16. (Currently amended) The Method~~method~~ according to ~~Claim~~claim 15,
~~characterized~~
~~in that~~wherein a multiplicity of integrated circuits (14, 23) with rewiring devices (18, 19) on the
carrier device (10) undergo a functional test prior to the separation.

Claim 17. (Currently amended) The Method~~method~~ according to ~~one of the preceding claims,~~
~~characterized~~
~~in that~~claim 1, wherein the patterned rewiring device (18, 19) is patterned ~~in such a way that it~~
extends laterally beyond the integrated circuit (14).

Claim 18. (Currently amended) ~~The Method~~method according to ~~one of the preceding claims,~~
~~characterized~~
~~in that~~claim 1, wherein multichip modules are formed, which ~~preferably~~ have different individual ICs.

Claim 19. (Currently amended) ~~An Integrated~~integrated circuit (23) with a rewiring device ~~(18,~~
~~19), having comprising:~~

a carrier device (10) with predefined or subsequently patterned ~~cutouts (11)~~cutouts;

at least one integrated circuit (14) upside down on the carrier device (10) ~~in such a way that the~~
defined ~~cutouts (11)~~cutouts of the carrier device (10) are located above at least one connection
device (15) of the integrated circuit (14);

an insulation device (17) on ~~that a~~ side of the carrier device (10) which is not covered by the
integrated circuit (14), omitting the at least one connection device (15) in the cutout (11);

the patterned rewiring device (18, 19) on the insulation device (17);

a patterned solder resist device (20) on the patterned rewiring device (18, 19); and

solder balls (22) on sections (21) on the rewiring device (18) which are not covered by the patterned
solder resist device (20).